HANN'S NEW METEOROLOGY.

Those of our readers who are familiar with the German language will be pleased to know that the first number of the new Lehrbuch der Meteorologie, by Prof. Dr. Julius Hann, has been received. The whole work will include about eight parts or 700 pages royal octavo. The principal text, in large type, is accompanied by almost as much matter in smaller type, and again as much more by way of foot notes in still smaller type. The appendix will consist of chapters in mathematical physics explanatory of the problems whose general results are given in the text. The whole volume consists of five subdivisions on temperature, pressure, aqueous vapor, the winds, and the atmospheric disturbances. On every page one sees evidence that the author has determined to present only the latest or best established views, and especially the results of accurate measurements instead of indefinite general views. The work represents the present state of scientific meteorology as contrasted with the popular and more readable books that have been published for general use. The price of the whole volume will be about $6. If there is a sufficient demand for an English translation, we believe that the Chief of Bureau will be pleased to provide it, although it may include only a portion of the present work.

THE RELATIVE DURATION OF THE NORMAL WARM AND COLD SEASONS.

The agriculturist understands by the term growing season the interval between the date of the sprouting of his recently sown seed and the date of the ripening of the harvest. The botanist understands by the growing season the interval between the appearance of the earliest buds or flowers in the springtime and the fall of the leaf in autumn. Both of these phenological periods depend quite as much on moisture as they do on temperature: not only must the temperature be above freezing, and in fact generally above 42° F., but there must be enough moisture in the soil to supply the sap necessary for growth. Linnsser has demonstrated that as we proceed eastward from the coast of Europe into the dry region of southern Russia, the plants have, by the process of natural selection, eliminated from among themselves those that can not adapt themselves to their surroundings, so that in southern Russia the early spring with its showers brings forth a fine crop of cereals and other plants, which very rapidly perfect their seeds so that the harvest is over before the long summer drought begins. A similar process of adaptation will undoubtedly go on as Americans continue the cultivation of the plains on the eastern slope of the Rocky Mountains in Mexico, the United States, and Canada. Already the development of "short season" wheat and corn is noticeable. We are, therefore, interested in the relations between the warm and cold portions of the year brought out by Mr. Pennywitt in his article on a previous page, and shown on Charts XI to XIII.

The mean daily temperatures employed by Mr. Pennywitt are the means of the daily maxima and minima. Now the maximum temperatures are the resultant of the sun's heat plus the effect of the winds, the clouds, and the radiation from the earth's surface, but the minimum temperatures are mainly the result of the radiation, the winds and the clouds, with but very little of the direct influence of sunshine. Therefore, as the maximum temperatures might be expected to show the influence of the progress of the sun northward in the springtime, or southward in the autumn, much more clearly than the daily minimum temperatures, so also the daily average of the maxima and minima should show this progress less clearly. Charts of the dates on which the normal daily maxima equal the normal annual mean of the maxima would be especially interesting from an agricultural point of view, since most plants depend for their growth and ripening on the direct action of the sun's rays.

Charts showing when the normal mean daily temperatures cross the line of 42° F. would be of special interest because the latter temperature has been taken as the basis for computing the sum total of the degrees usually adopted as a thermal constant in phenological studies.

THE WEATHER IN DISTANT REGIONS.

During the month of February special phenomena were reported about as follows:

February 3–6.—Severe gales off the coast of Virginia and North Carolina and very heavy weather between New York and Bermuda, as well as Halifax and Bermuda.

February 16, 17.—Intense cold in southern Europe, with high winds, snowstorms, and blizzards; an eruption of Mount Vesuvius; interruption of railroad traffic in southern Russia; heavy gale on the southern coast of Spain; snow slides in Switzerland.

February 1–19.—Remarkable easterly gales for fifteen days on the route between Norfolk, Va., and Queenstown, Ireland.

February 22, 23, 24.—Southern Russia, violent blizzard following a week of snowstorms; great hardships and prospects of a famine owing to the consumption of grain stored up for spring seed. The snowstorms of February 10–15 are reported to have been the fiercest known in forty years.

February 26.—2 a. m., at St. Joseph, Mich., earthquake; three distinct shocks.

February 27, 28.—Dull, unsettled weather in England, Germany, and France, with local rain.

NEW DETERMINATION OF VAPOR TENSION.

According to No. 2 of the Beiblätter for 1901, some new determinations of the vapor tension of saturated aqueous vapor have been made by Dr. Thiesen and K. Scheel and published in volume 3 of the Scientific Memoirs of the Imperial Physical and Technical Institute at Charlottenburg. The adopted value of the vapor pressure at 0° C. is 4.579 millimeters of mercury at 0° C. under normal gravity, with a probable error of ±0.001. For other temperatures the following pressures are found, but with a slightly lower degree of accuracy. These values must be considered as more reliable than the determinations by Regnault and Magnus at the same temperatures:

Temperature. °C.	Pressure. Thiesen and Scheel. *Mm.*
—11.334	1.9217
— 6.561	2.6731
0.0	4.579
+14.5679	12.4385
15.0593	12.8285
16.3603	13.9189
19.8402	17.3622
19.8438	17.3411
24.9749	23.6818
+25.4748	24.3308

The comparison of these values with the empirical formulæ for fluid water and for ice published in Wiedemann's Annalen, Vol. LXVII, page 692, 1899, shows no deviation exceeding $\frac{1}{10}$ millimeter. A translation of this article by Dr. Thiesen was prepared at the time for the MONTHLY WEATHER REVIEW, but the publication has been delayed.

The determinations of the vapor pressure from ice and